

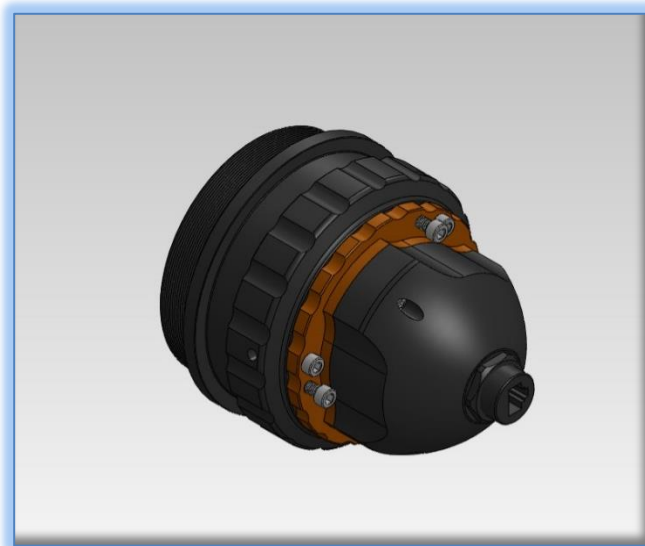


FastFocus Secondary Mirror Focusing System For Celestron Classic and EdgeHD C-14

Step-by-Step Instructions for Installing the FastFocus to your Celestron C-14 Fastar compatible telescope

Optec's FastFocus Secondary Mirror Focusing System with FocusLynx Controller was designed to conserve the limited back focus of the EdgeHD corrected SCT telescopes. However, FastFocus can be used with any Fastar compatible C-14 Optical Tube Assembly (OTA). Owners of older, pre-Fastar C-14 OTA's can even upgrade to make their telescope's secondary mirror Fastar compatible. Contact Optec for details.

The FastFocus system operates by moving the secondary mirror in relation to the primary mirror. In this way, the primary mirror and entire imaging train can be locked in place avoiding flexure, mirror flop, and tilt at the image plane. An external focuser, such as the Optec TCF-S, mounted to the rear of the OTA works very well to eliminate mirror flop, but with the addition of AO units, off axis guiders, filter wheels, and focal reducers, the limited amount of back focus of the HD scopes is easily consumed. FastFocus allows you to both save back-focus in your imaging train and at eliminate mirror flop.



Installing the Fast Focus onto the telescope is quite easy. The basic idea is to remove the mirror and attach it to an adapter plate that will then attach to the Fast Focus. Finally, the entire assembly is threaded on my means of another adapter – specific to the C14 corrector thread. The FastFocus then precisely moves the secondary mirror to affect focus at the image plane.

Please review these instructions carefully for installation procedures. Contact [Optec Support](#) if you have any questions or concerns when installing the FastFocus SMFS.



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Optec FastFocus SMFS for C14 with FocusLynx



FastFocus SMFS Package Contents

Confirm the contents of your C14 FastFocus SMFS package. The package should contain the following:

- FastFocus focuser for C14
- Mirror mount assembly and hardware
- FocusLynx controller hub
- 12VDC power supply with cord
- USB-Serial cable
- Cat-5e Ethernet cable – Qty. 2
- 5/32" Ball driver for 10-32 collimation screws
- 0.050" hex key
- Software CD



The second Cat-5e Ethernet cable is for a network connection using the Network port on the bottom of the FocusLynx hub. This cable and the Ethernet cable included with the FastFocus are interchangeable with any Cat-5e or better cable.

Installation Procedure: Step-by-Step

Step 1

Carefully unscrew the corrector pinch ring holding the secondary mirror in place.



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Step 2

Remove secondary mirror assembly from the telescope. Notice alignment setscrew on side of the assembly and mark the side of the mirror if not already marked.



Step 3

Use care and unscrew the (3) pan head collimation screws to remove the mirror from the mount.



Step 4

Store corrector pinch ring, collimation screws, and mirror mount. These items will no longer be needed.



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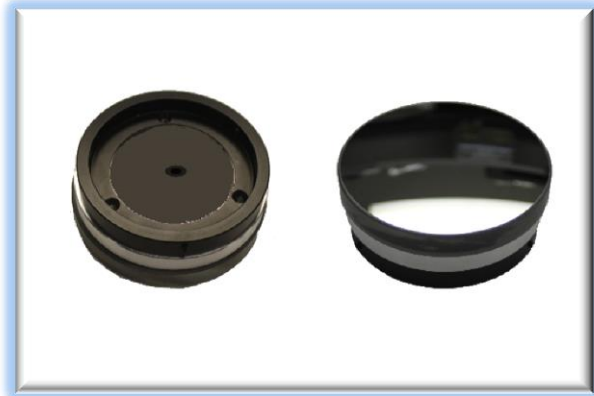


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Step 5

Attach the secondary mirror securely to the Mirror Adapter with the 3 supplied M3 flat head screws. If you have a C14 classic with just the center mounting hole use the included 10-32 flathead.



Step 6

Locate the alignment setscrew on the corrector adapter and hold with the 3 holes facing up. Place the threaded corrector locking ring onto the corrector adapter.



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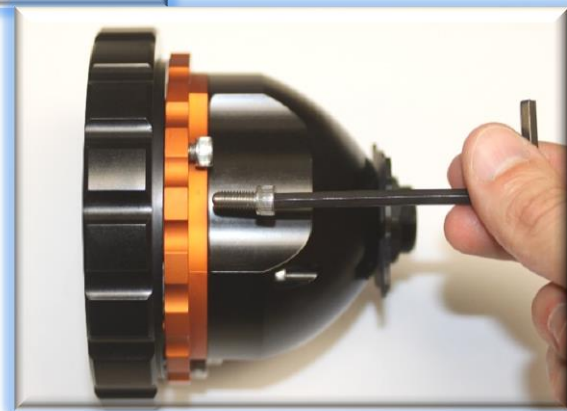
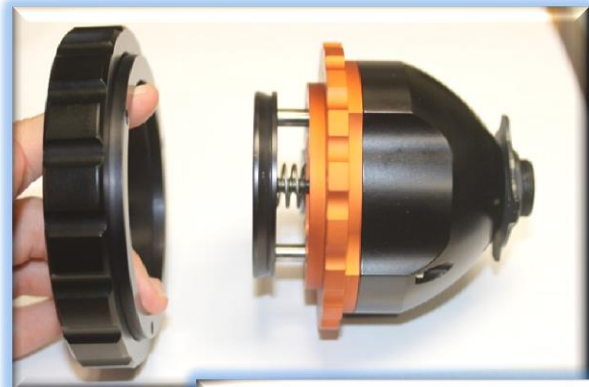


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Step 7

Place the 10-32 mounting (flat end) socket cap screws through the free fitting holes in the orange flange and tighten all 3 of them evenly into the corrector adapter assembly. Next, screw in the 10-32 push screws (rounded end) until they are snug against the face of the Corrector Thread adapter.



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Step 8

Take the mirror adapter with mirror and align the mark on the side of the mirror with the alignment setscrew on the corrector adapter. Slide the Mirror Adapter over the dovetail of the focuser and align the mark with the setscrew on the corrector adapter.



Tighten the 3 setscrews along the circumference of the mirror adapter with the 0.050" hex key. These screws should be very tight so that the mirror is secure.



Step 9

Finally, slide the FastFocus into the corrector making sure to match up the slot with the alignment screw. Be careful of the mirror when placing back into the C14 OTA. Hold the exposed aluminum on the corrector cell thread so that the focuser can be tightened properly. Then thread the corrector locking ring on the FastFocus to tighten the focuser snugly.



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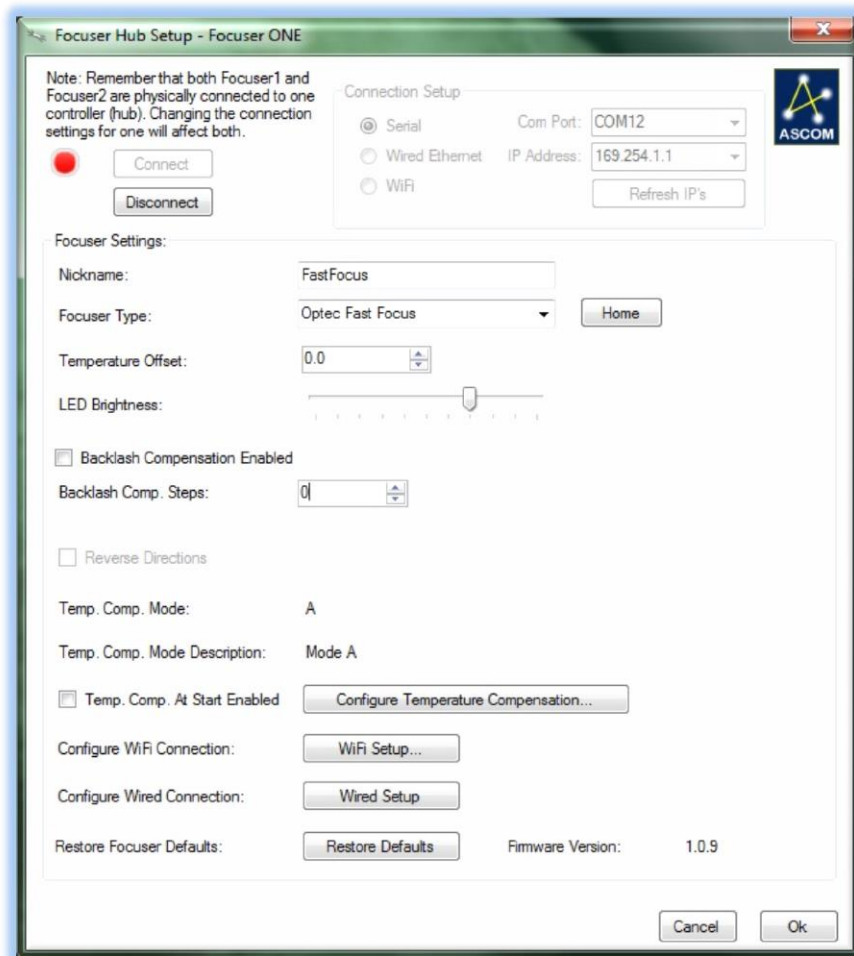
Optec FastFocus SMFS for C14 with FocusLynx



Your FastFocus SMFS is now ready for FocusLynx Software Setup. Contact [Optec Support](#) if you have any questions or concerns installing your FastFocus SMFS.

FocusLynx Software Setup

Your FastFocus focuser is now installed. Consult the **FocusLynx Quick Start Guide** to install the latest FocusLynx Commander software. Once installed, you will need to configure the FocusLynx Commander for your new FastFocus. Configuration within FocusLynx Commander will also configure the ASCOM driver so that the same settings will apply when using auto-focusing software such as Maxim D/L or FocusMax.



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FocusLynx Commander Focuser Type selection

Open the Focuser Hub Setup dialog for Focuser 1 or Focuser 2 and choose the **Optec FastFocus** Focuser Type option. Your FocusLynx Hub firmware must be v1.0.6 or higher for this option to function properly.

Set the Position Units

In the main form of the FocusLynx Commander window, you may left-click directly on the Position digital read-out to toggle units between Steps, Microns, and Millimeters. Note that only the step count is passed through to the ASCOM driver. The iFocuserV2 standard for ASCOM absolute focusers relates all focuser movements to actual step counts with the higher level client responsible for making the conversions to real-world measurements. The FocusLynx Commander client extends the property to easily convert the units to mm and microns.

Step Size and Focuser Range

The FastFocus provides incredibly small 0.197 micron (197 nm) per step size resolution for very precise focusing. Focuser range total travel of the FastFocus is 44800 steps equal to 8.9mm, which is equal to a net effective focal travel of approximately 8 inches at focal plane.

Temperature Compensation

Optec's FastFocus includes a built-in temperature probe for temperature compensation. Temperature compensation capability is integrated in the FastFocus SMFS keeping you in focus for the duration of the night. Within FocusLynx Commander click File – Temp Comp Wizard to automatically determine the "TC" or Temperature Coefficient for your particular telescope configuration. After completing the wizard, turn on temperature compensation by selecting "On" just above the Sync button. The FocusLynx controller will automatically adjust the FastFocus for changing temperatures.



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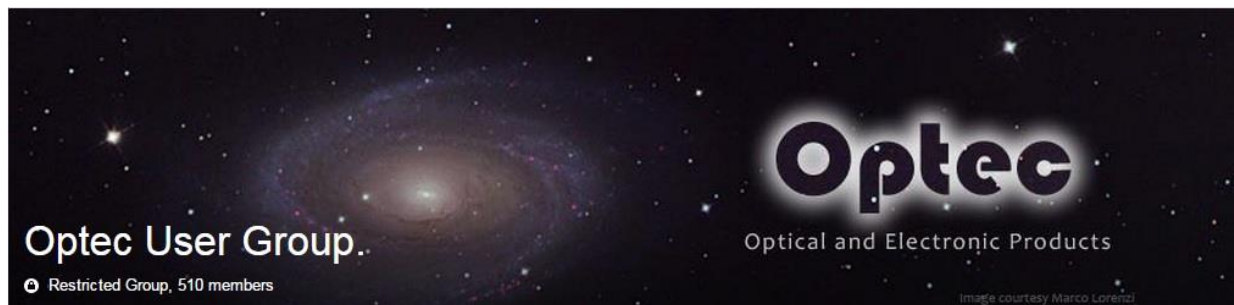


Third-Party Software

Visit the Optec website for the additional information describing FocusLynx configurations for ASCOM clients such as **FocusMax** and **Maxim D/L**, as well as non-ASCOM software such as Software Bisque's **TheSky X** native X2 drivers for FocusLynx. Our FocusLynx Resource page is currently under development: <http://www.optecinc.com/astromy/catalog/focuslynx/resources.htm>.

Optec User Group

The Optec User Group on Yahoo! can also provide answers to specific configuration questions and provides a forum to communicate with other users. Click the banner below to subscribe.



Or visit the Yahoo! site here: <https://groups.yahoo.com/neo/groups/Optec/info>.



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